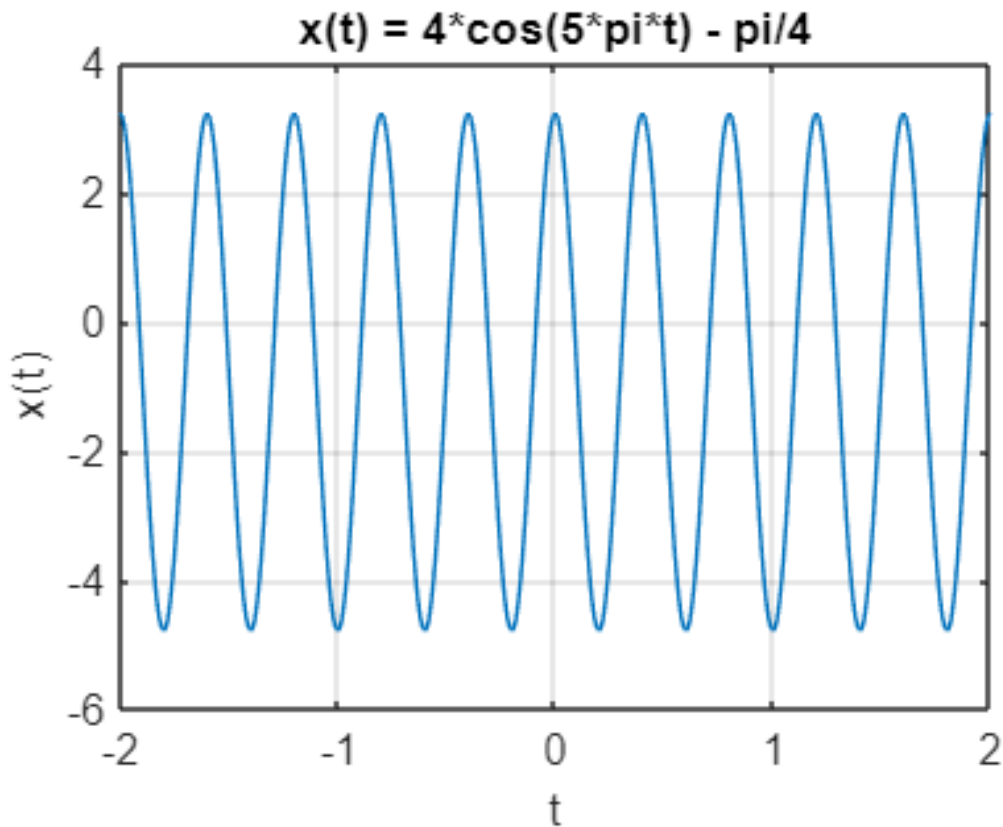
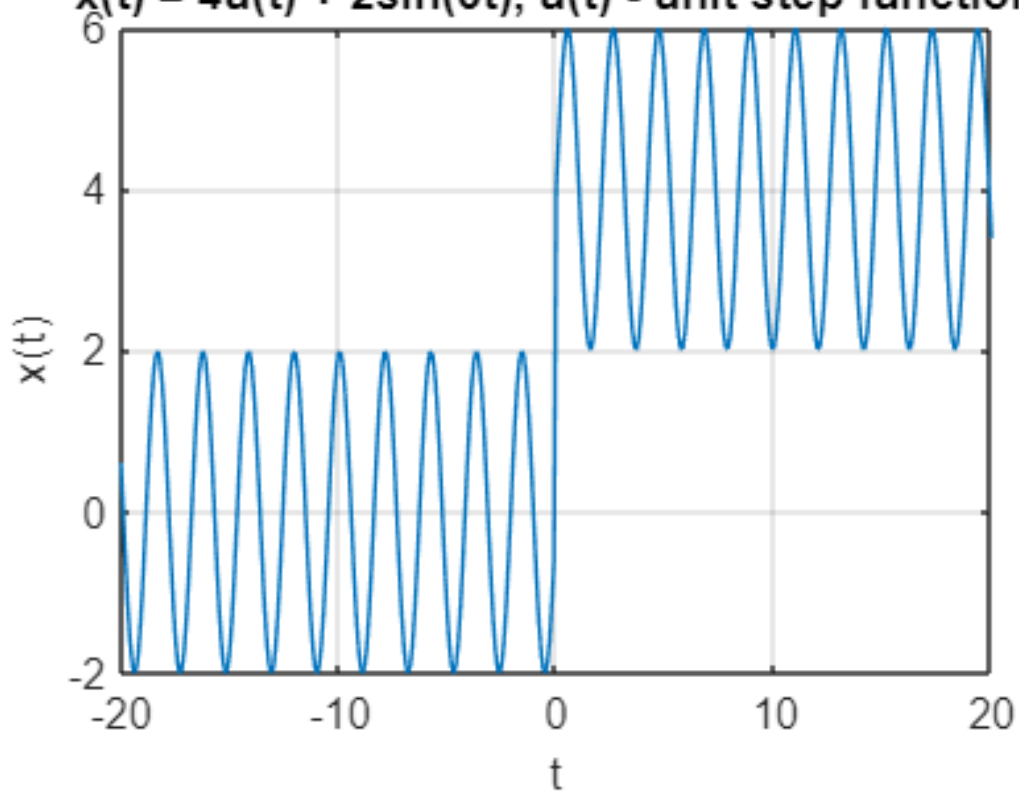


```
% Ex1
% a.
clear variables
t = -2:0.01:2;
x = @(t)(4 * cos(5 * pi * t) - pi / 4);
plot(t,x(t)); grid;
xlabel('t'); ylabel('x(t)')
title('x(t) = 4*cos(5*pi*t) - pi/4')
```

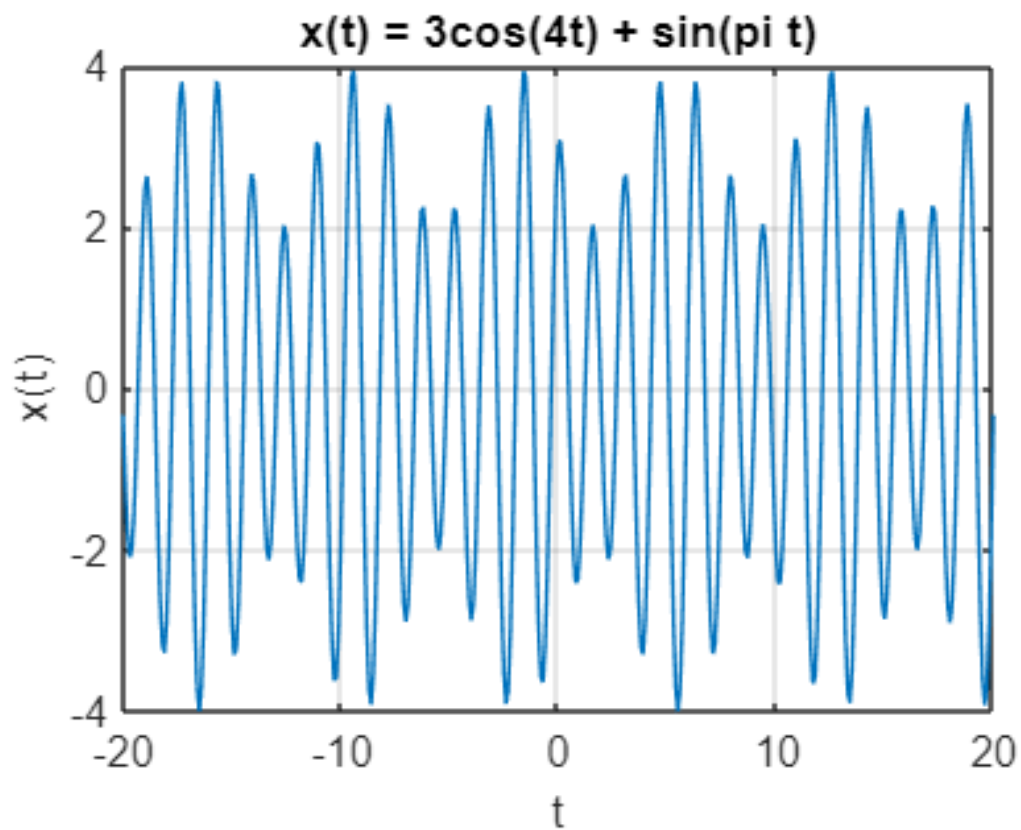


```
%b. not periodic
clear variables
u = @(t) (t >= 0);
t=-20:0.1:20;
x=@(t)(4*u(t)+2*sin(3*t));
plot(t,x(t)); grid;
xlabel('t'); ylabel('x(t)')
title('x(t) = 4u(t) + 2sin(3t), u(t) - unit step function')
```

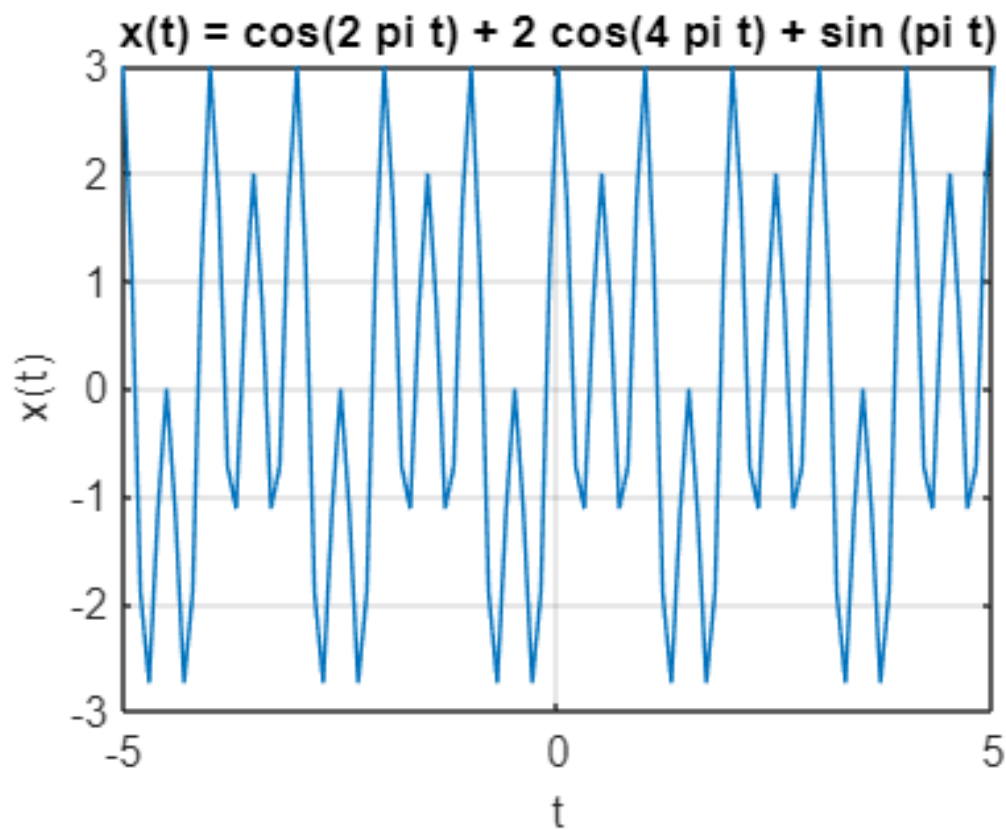
$x(t) = 4u(t) + 2\sin(3t)$, $u(t)$ - unit step function



```
%c.
clear variables
t = -20:0.1:20;
x = @(t)(3*cos(4*t) + sin(pi*t));
plot(t,x(t)); grid;
xlabel('t'); ylabel('x(t)')
title('x(t) = 3cos(4t) + sin(pi t)')
```

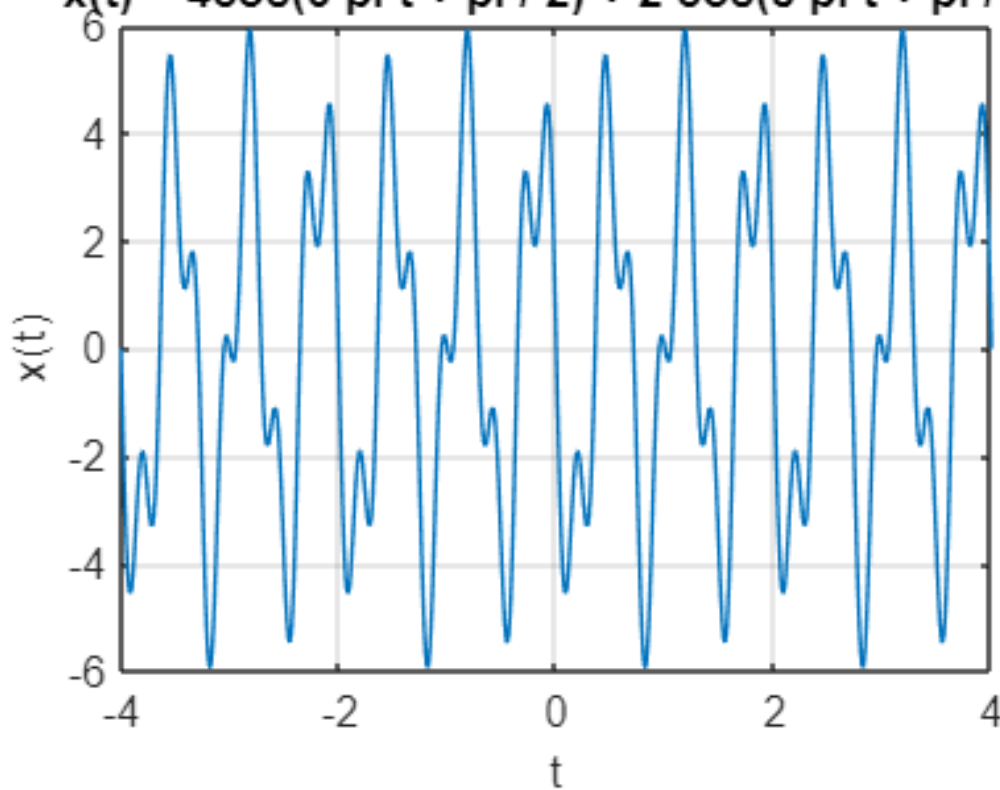


```
%d.
clear variables
t = -5:0.1:5;
x = @(t)(cos(2*pi*t) + 2*cos(4*pi*t) + sin(pi * t));
plot(t,x(t)); grid;
xlabel('t'); ylabel('x(t)')
title('x(t) = cos(2 pi t) + 2 cos(4 pi t) + sin (pi t)')
```

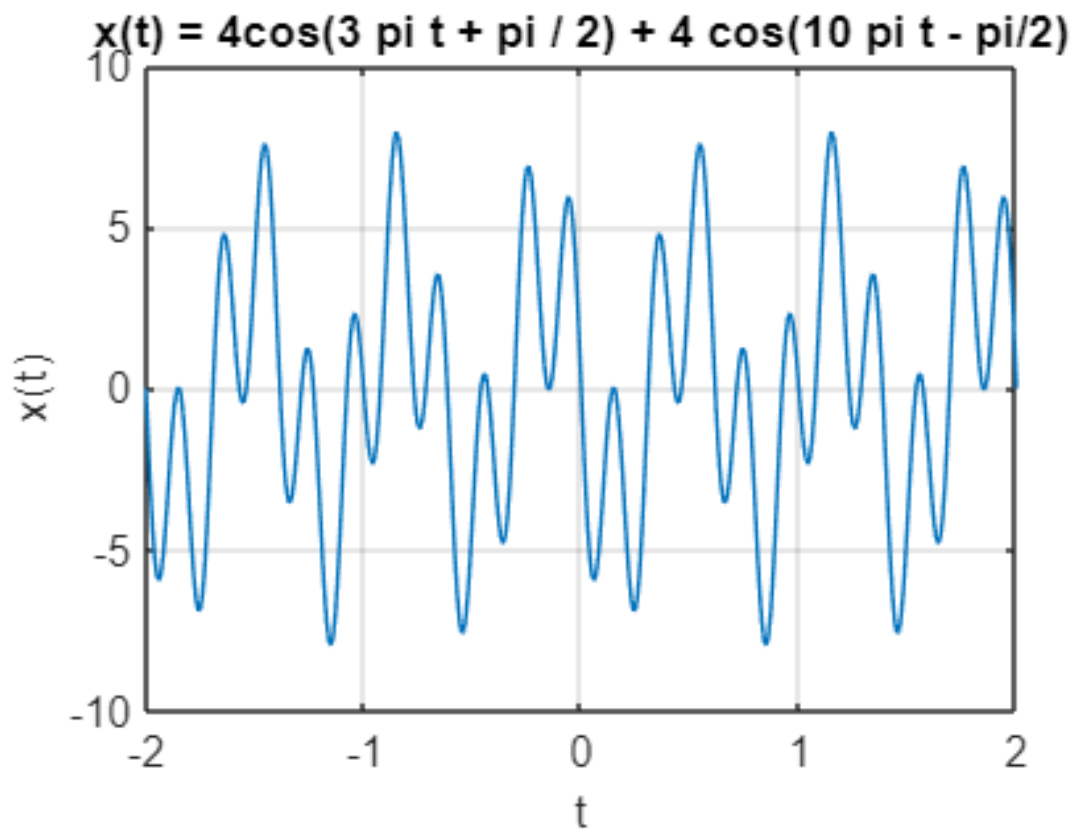


```
%e.
clear variables
t = -4:0.01:4;
x = @(t)(4*cos(3*pi*t + pi/2) + 2*cos(8*pi*t + pi/2));
plot(t,x(t)); grid;
xlabel('t'); ylabel('x(t)')
title('x(t) = 4cos(3 pi t + pi / 2) + 2 cos(8 pi t + pi / 2)')
```

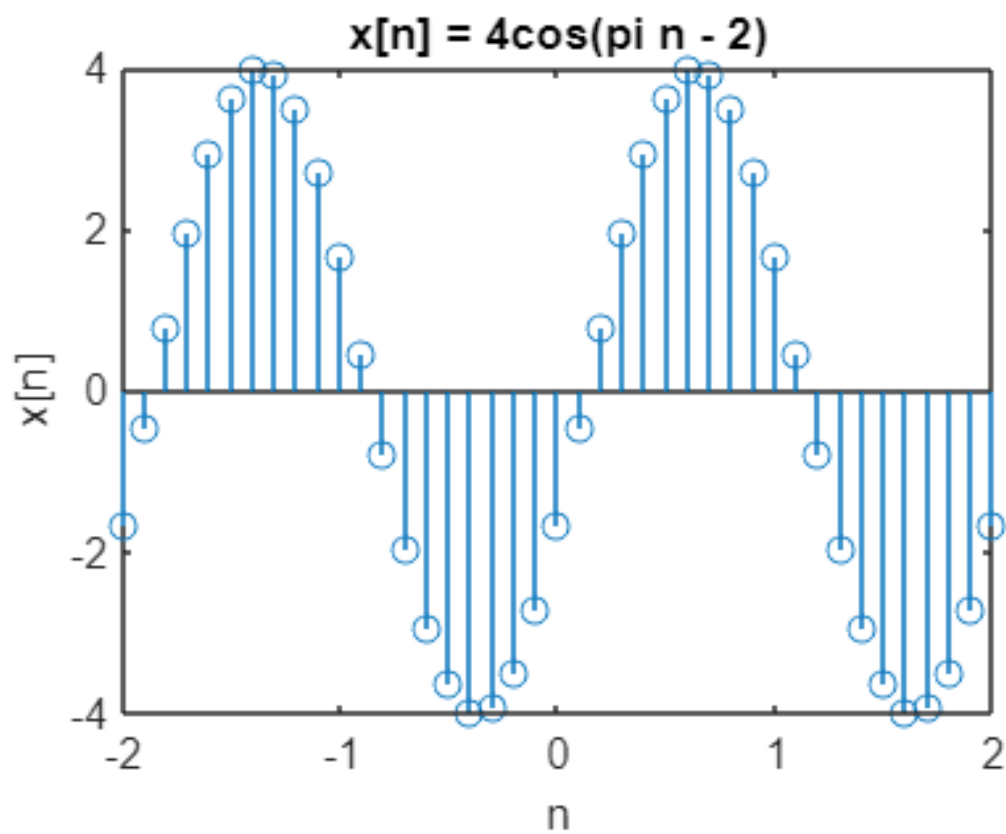
$$x(t) = 4\cos(3\pi t + \pi/2) + 2\cos(8\pi t + \pi/2)$$



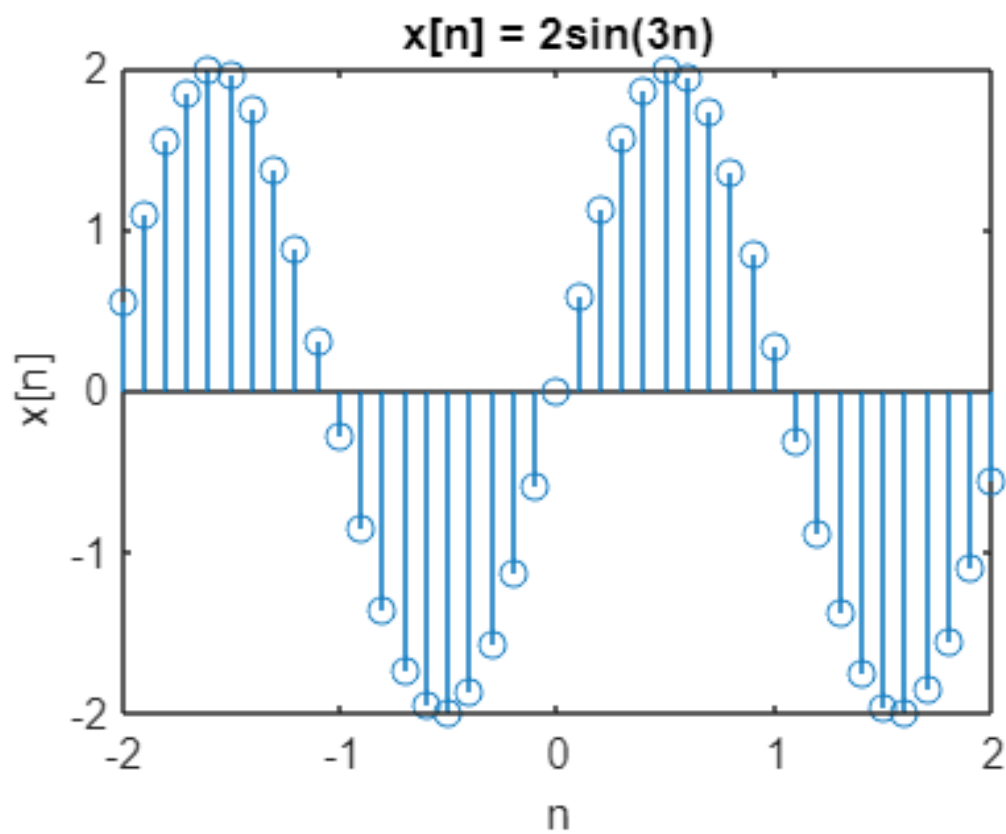
```
%f
clear variables
t = -2:0.01:2;
x = @(t)(4*cos(3*pi*t + pi/2) + 4*cos(10*pi*t + pi/2));
plot(t,x(t)); grid;
xlabel('t'); ylabel('x(t)')
title('x(t) = 4cos(3 pi t + pi / 2) + 4 cos(10 pi t - pi/2)')
```



```
%g
clear variables
n = -2:0.1:2;
x = @(n)(4 * cos(pi*n - 2));
stem(n,x(n));
xlabel('n'); ylabel('x[n]')
title('x[n] = 4cos(pi n - 2)')
```



```
%h
clear variables
n = -2:0.1:2;
x = @(n)(2 * sin(3*n));
stem(n,x(n));
xlabel('n'); ylabel('x[n]')
title('x[n] = 2sin(3n)')
```



```
%i
clear variables
n = -4:0.1:4;
x = @(n)(4 * cos(0.5*pi*n + pi/4));
stem(n,x(n));
xlabel('n'); ylabel('x[n]')
title('x[n] = 4cos(0.5 pi n + pi/4)')
```